

SOME OBSERVATIONS ON THE FINE-STRUCTURE
MORPHOLOGY OF *XENOS PECKII*
(COLEOPTERA: STYLOPIDAE)

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ABSTRACT

The fine-structure morphology of *Xenos peckii* (Coleoptera: Stylopidae) was studied with the scanning electron microscope. Details of antennae, eyes, and elytra are illustrated.

The Stylopidae are small beetles which parasitize some species of Hymenoptera, Homoptera, Hemiptera, Orthoptera, and Thysanura. *Xenos peckii* Kirby is a parasite of the wasp *Polistes fuscatus*. A preliminary study of fine-structure morphology was made from a series of *X. peckii* collected from these wasps in Indianapolis, Indiana.

Figure 1 shows the entire head of a male of *X. peckii*. This species has 4-segmented antennae and large raspberry-like compound eyes. The mouth parts are reduced, with the mandibles appearing smooth and pointed. Below the mandibles are the maxillary palpi.

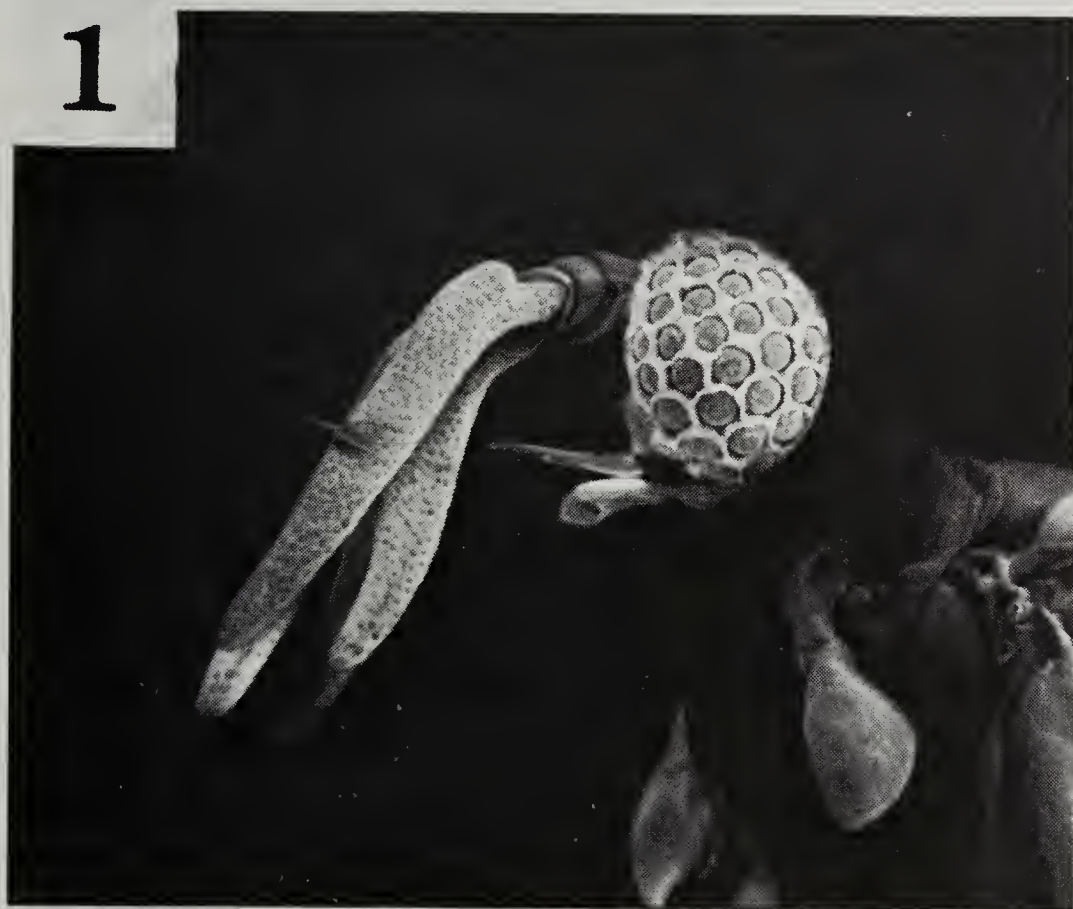
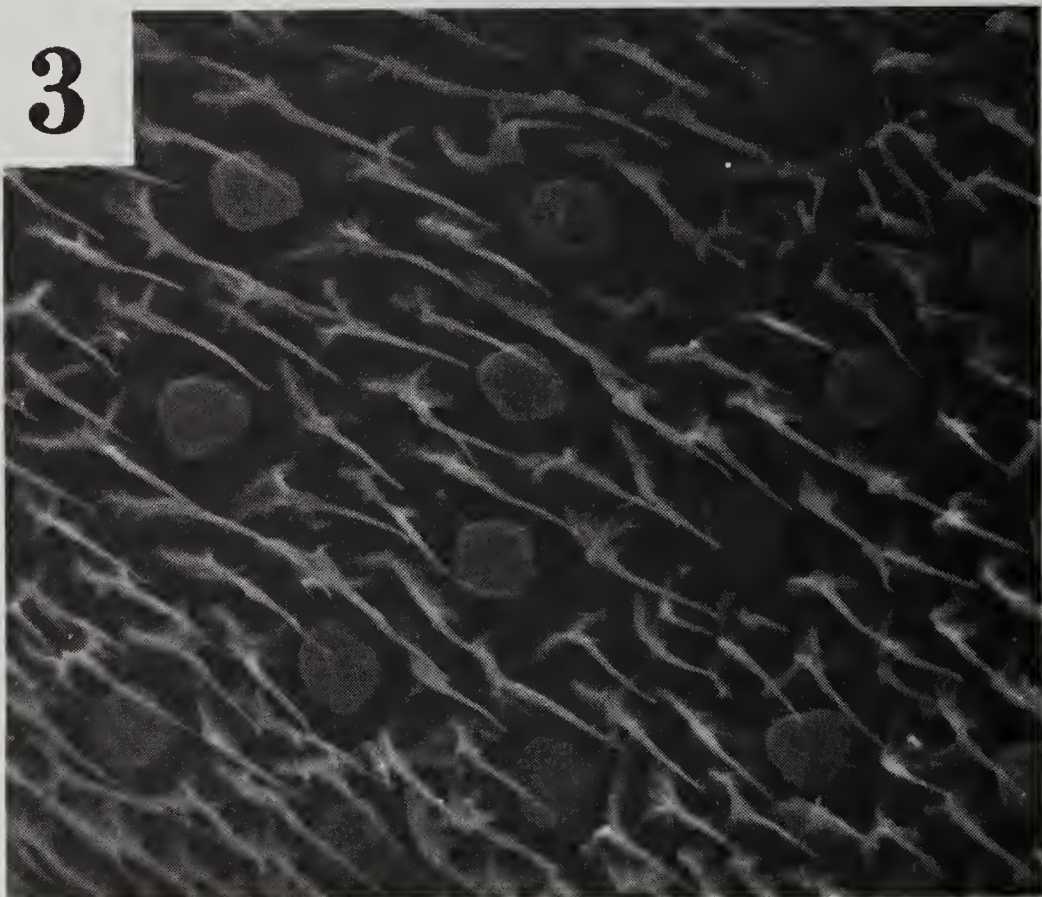


Fig. 1, *Xenos peckii*, head and antenna.

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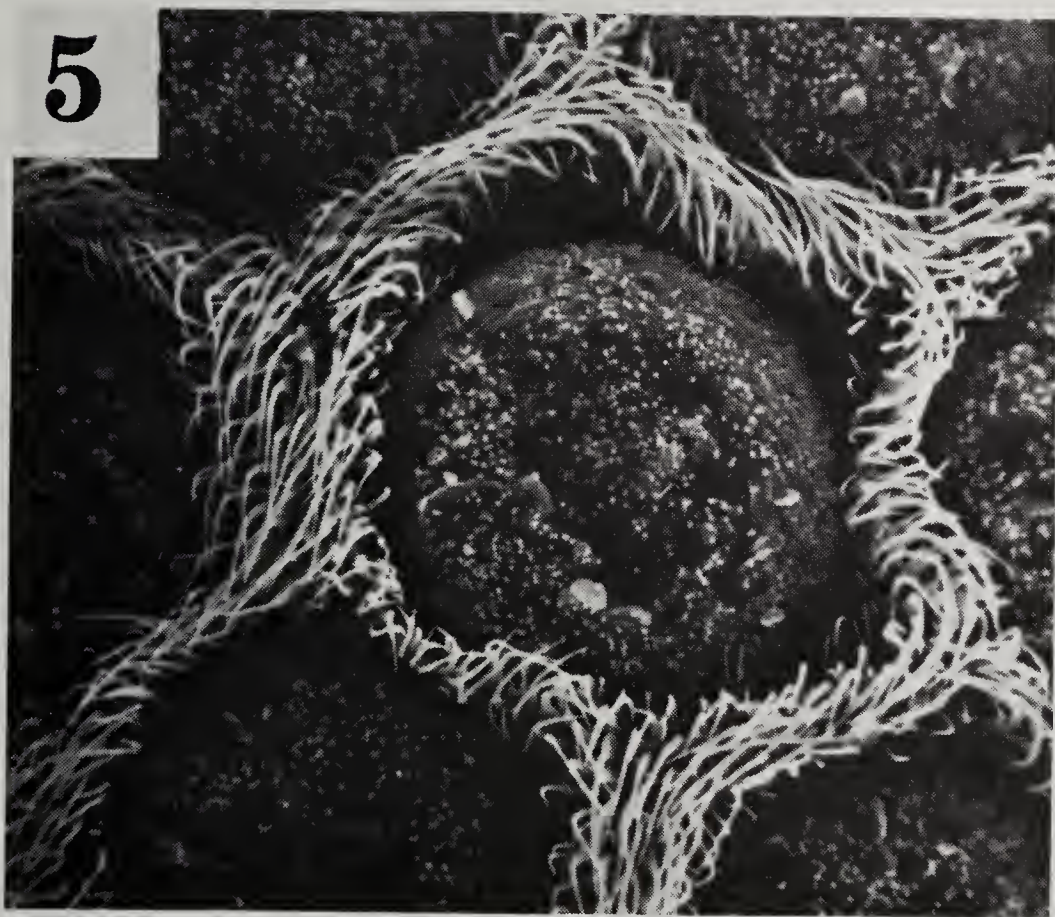
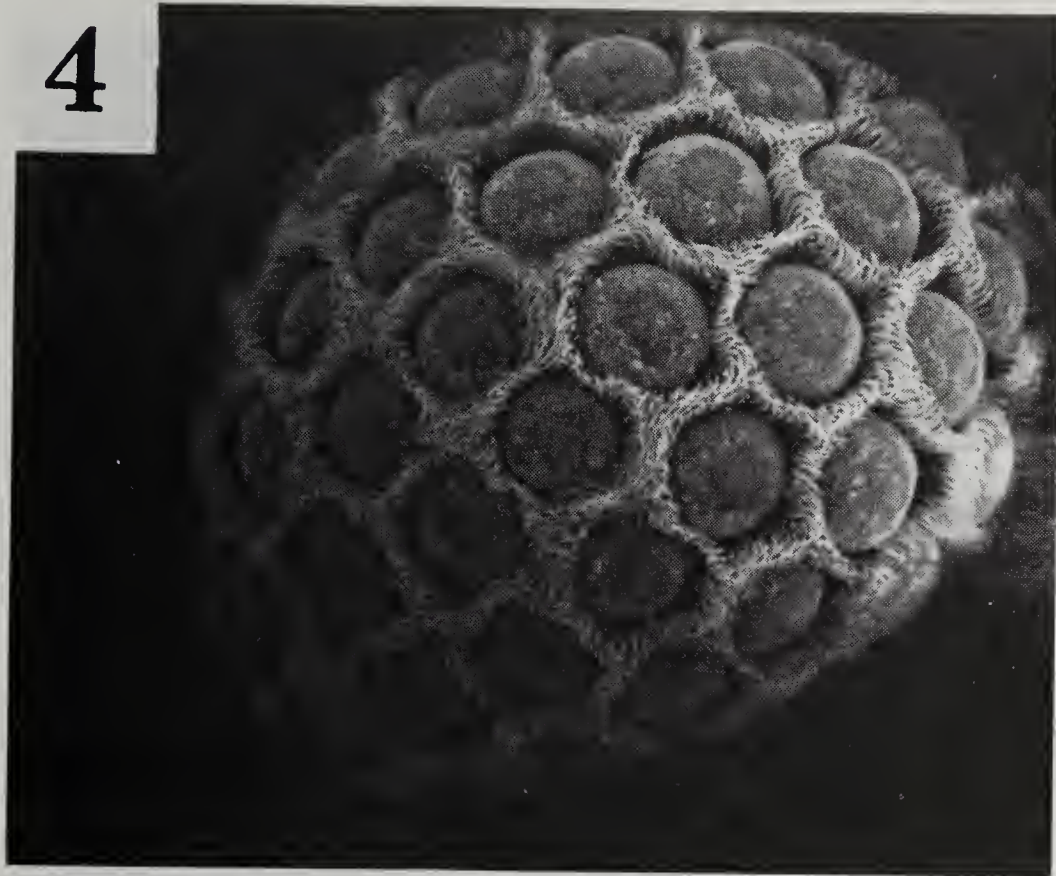
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The flabellate antennae (fig. 2) are covered with large sensilla basiconica (fig. 3). Kinzelbach's fine work (1966) showed that species of *Xenos* have 3 nerve cells innervating each basiconic peg.



Figs. 2-3, *Xenos peckii*: 2) antenna; 3) sensilla basiconica on antenna.

The eyes (fig. 4) are composed of 40 to 50 ommatidia ranging from .045 to .050 mm in diameter. Each ommatidium (fig. 5) is surrounded by a dense group of microtrichia. The microtrichia may have elaborate forms, some having 2 or 3 peaks at the apex.



Figs. 4-5, *Xenos peckii*: 4) compound eye; 5) ommatidium.

The forewings or elytra are reduced, paddle-shaped structures. Each is covered with microtrichia (fig. 6) which like those around the ommatidia may also have more than one peak.

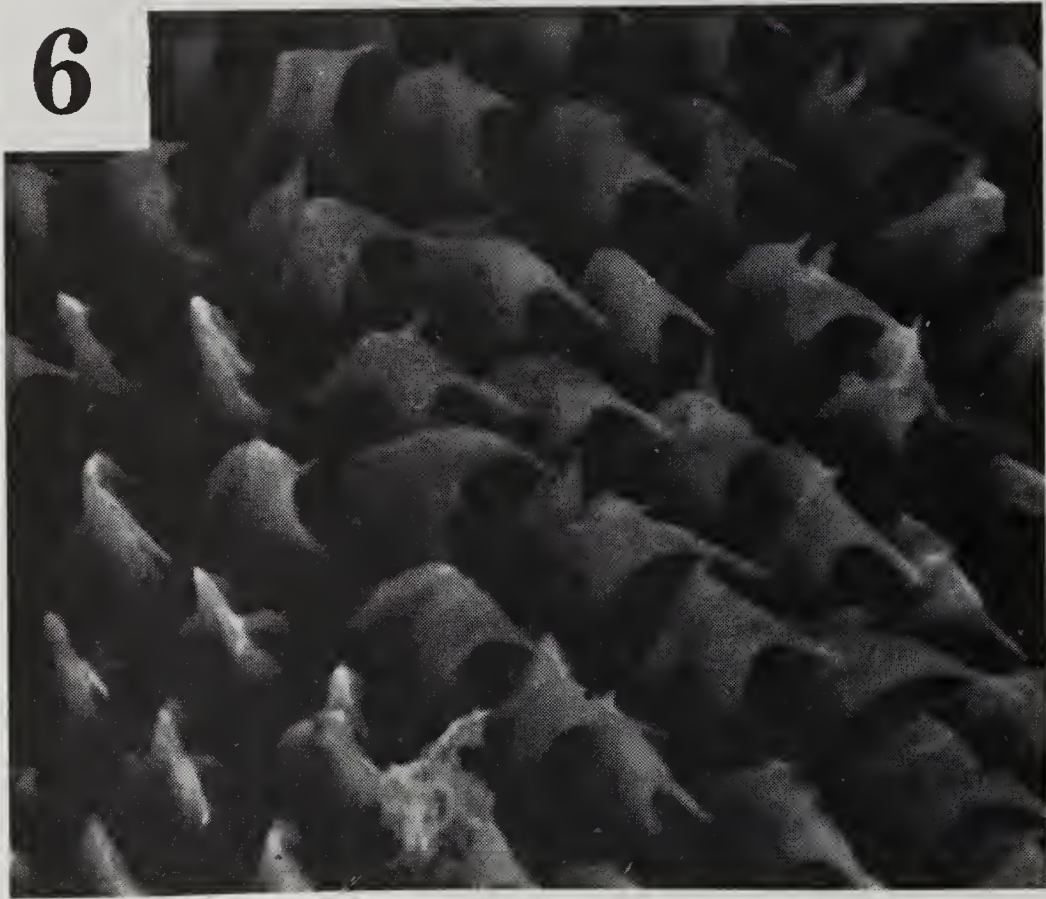


Fig. 6, *Xenos peckii*, microtrichia on elytron.

An attempt was made to examine the chromosomes and sperm of *X. peckii*, but the material collected was too far into spermatogenesis for meiosis to be observed. It is known that *X. peckii* has 16 chromosomes (Schrader 1924). The testes of *X. peckii* were large and were easily dissected. The sheath was unpigmented, and the sperm ranged in size from 8 to 16 microns in length.

LITERATURE CITED

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SCHRADER, S. H. 1924. Reproduction in *Achroschismus wheeleri* Pierce. *J. Morph.* 39:157-204.

